

Neanderthals of the North:

re-investigating the marrow-split bones from Hollerup and their implications for the pre-Weichselian occupation of southern Scandinavia

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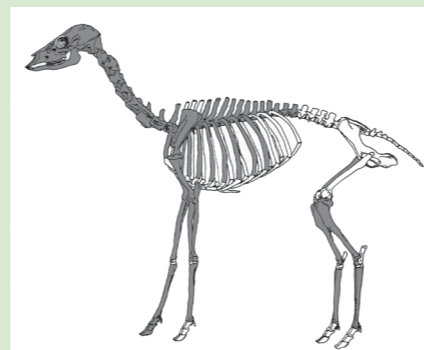
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Did Neanderthals venture into Denmark?

The marrow-split bones from Hollerup, eastern Jutland

In 1954 zoologist Ulrik Møhl Hansen (1955) investigated some fallow deer (*Dama dama*) specimens that had been unearthed during excavations in the early 19th century. The deer bones came from Eemian (MIS 5e) lake sediments at the site of Hollerup, located in eastern Jutland, Denmark (56.40°N, 09.78°W) (fig. 2B). He concluded, based mostly in the breakage symmetry (fig. 1, left), that the bones showed the signs of anthropogenic modification associated with marrow extraction, and thus, taking the date into consideration, argued that Neanderthals had been present at these high latitudes during the Eemian interglacial.



Despite some obvious shortcomings with Møhl Hansens study, the conclusion has remained unchallenged.

On the basis of the methodological improvements since, it seems only natural, and long overdue, to re-investigate the bones in order to assess their affiliation.

Results

Here, and in Egeland et al. (2013, see QR-code), we present the results of the re-analysis of the Hollerup bones.

We observed:

- 1) No unambiguous tool/cut marks (fig. 1, middle).
- 2) No unambiguous percussion marks or notches.
- 3) Some carnivore teeth marks.
- 4) Mostly non-nutritive/post-depositional breakage. Although a few nutritive phase breakage were observed (fig. 1, right).

On the basis of this, we conclude that none of the bones, possess morphological or contextual features that can be confidently associated with human butchery practice.



Fig. 1
Left: Photograph from the original analysis in 1954 by Ulrik Møhl Hansen showing the breakage symmetry which he used to argue for Neanderthal modification. After Møhl-Hansen (1955: Figure 2).
Middle: Linear striations on a rib fragment from Find V. Lacks the microstriations within the V-shaped cross-section that is characteristic of cutmarks. Also unusual for cutmarks are the shallow striations seen at the top of groove B. Groove A and parts of groove B and C also display a different coloration, suggesting that these marks were made subsequent to the removal from the sedimentary matrix (Egeland et al. 2013). Photo by M. MacNaughton.
Right: Photograph from the re-analysis in 2012 showing the cranial (top) and lateral (bottom) views of distal humeri from Find V. Both appear to show the smooth and oblique fracture surfaces which are characteristic of nutritive phase breakage (Egeland et al. 2013). Photo by K. Hansen.

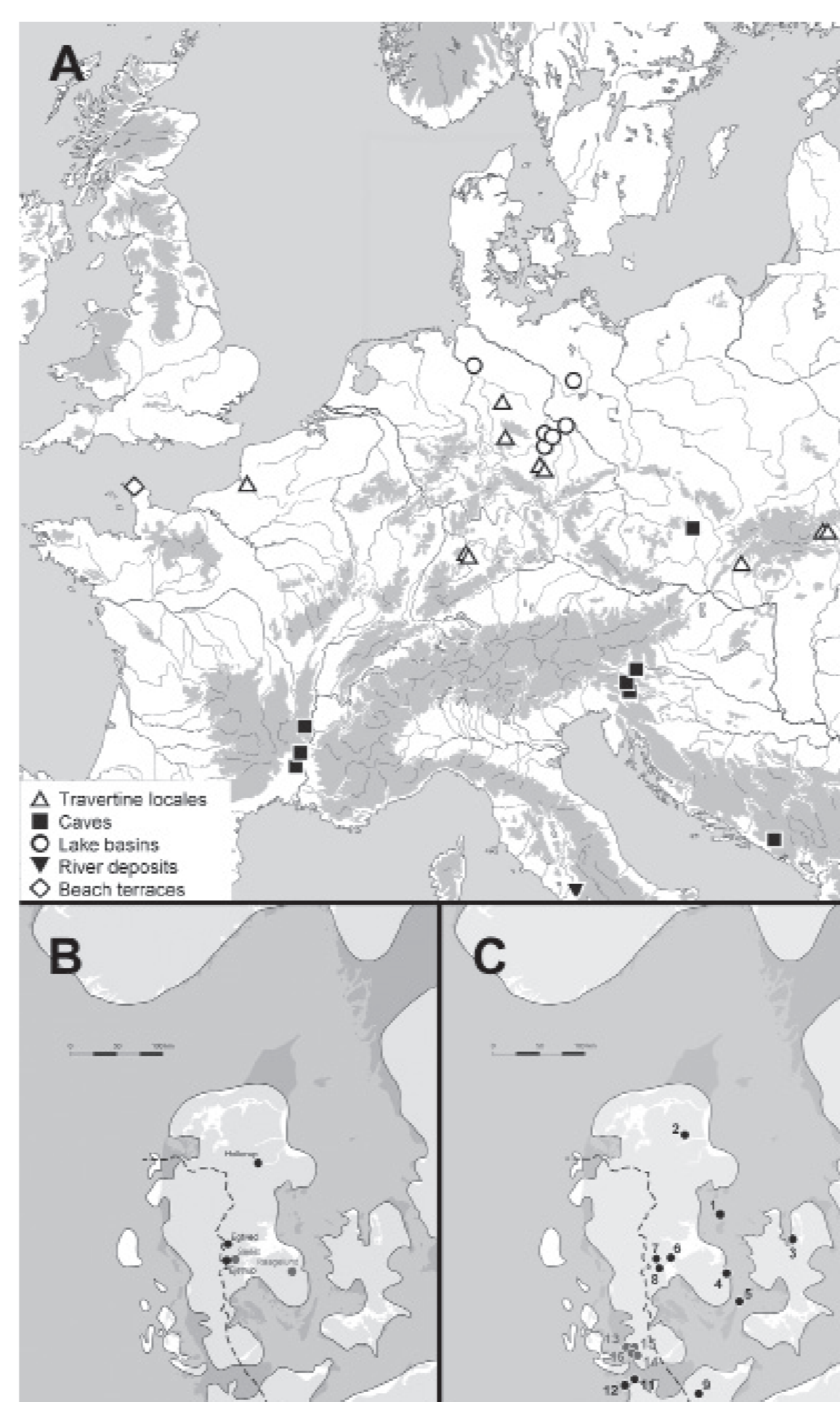


Fig. 2
A. Map of Europe showing localities securely dated to MIS 5e (after Wenzel 2007).
B. Map showing fallow deer find sites in Denmark (black= secure MIS 5e context, grey=secondary contexts) and reconstructed MIS 5e coastlines in southern Scandinavia relative to present-day conditions (after Larsen et al. 2009). Dashed line marks the maximum extent of the Weichselian glacial advance.
C. Map showing the locations of all candidate Middle Palaeolithic finds discussed by Hartz (1986) and Johansen and Stapert (1996). 1 = Gammelholm; 2 = Villestrup; 3 = Ejby Klint; 4 = Vejstrup Ådal; 5 = Karskov Klint; 6 = Fæno; 7 = Seest; 8 = Vejstrup Skov; 9 = Kalübbe; 10 = Oldendorf; 11 = Schalkholz; 12 = Hemmingsted; 13 = Jägerhook; 14 = Ahrenshöft; 15 = Joldelund; 16 = Drelsdorf.

Next: Finding the Neanderthal

Although the Hollerup material in itself, does not support a hominin occupation prior to the Weichselian glaciation, the possibility should not be prematurely discarded.

Since the 1950's only sporadic attention has been given to finding evidence of such early inhabitants. In this new initiative, the methodology will be systematic and rigorous, and include the following steps:

- 1) Ecological reconstruction: Climatic and topographic modelling will be used to re-construct migrational "windows of opportunities".
- 2) Empirical assessment: Candidate lithics (fig. 2C) will be assessed and a 3D digital catalogue will be made available.
- 3) Dissemination: Inspired by the successful British model (Buteux 2009), cooperation between the aggregate industry, amateur archaeologists, regional museums and universities will be established and hopefully increase future survey resources.

The goal of these collected efforts will be to answer: **if, when, where and how** Neanderthals colonised the North.

References:

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